

TYPHOON TESS

BEST TRACK TC-15W

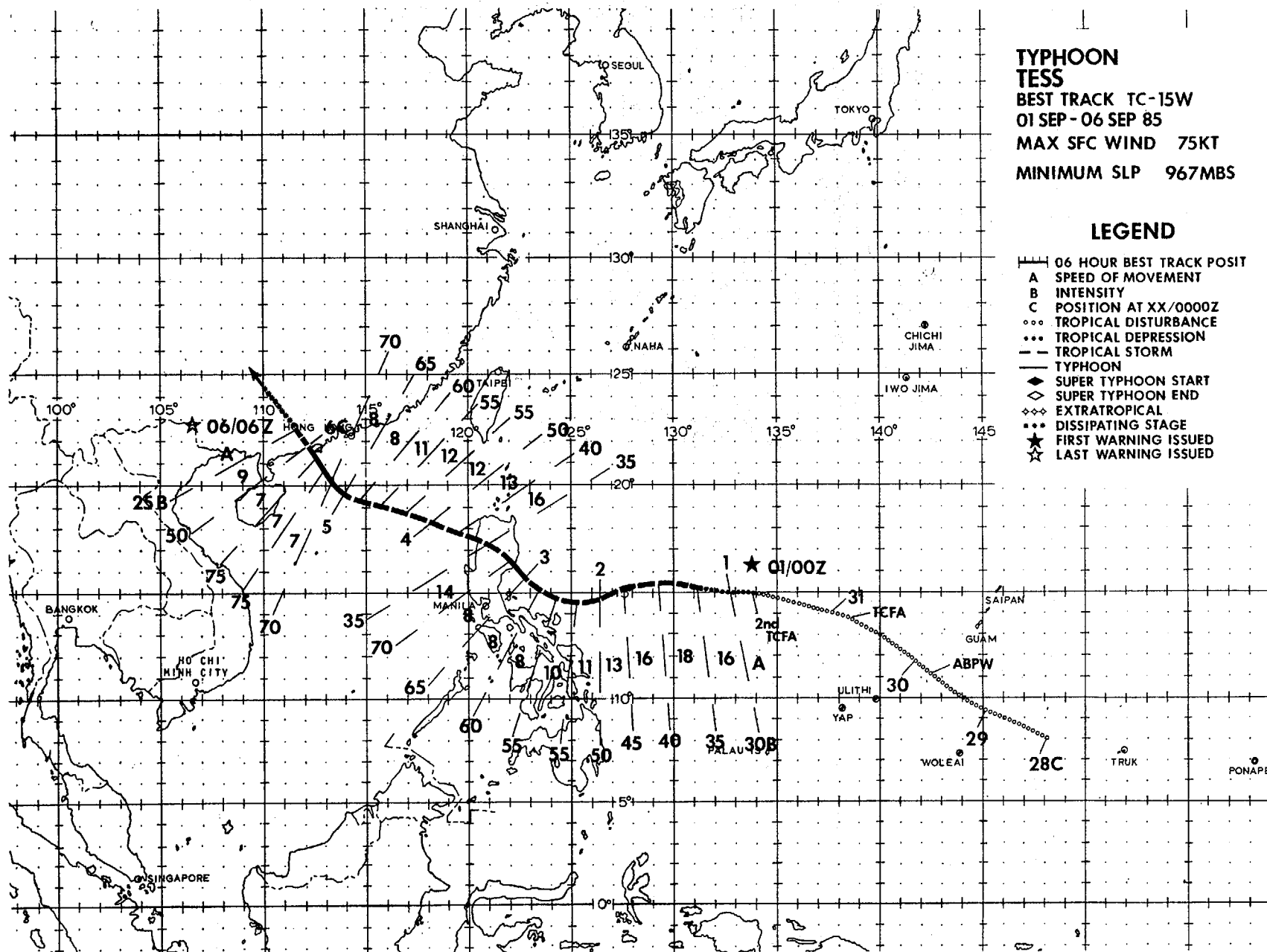
01 SEP-06 SEP 85

MAX SFC WIND 75KT

MINIMUM SLP 967MBS

LEGEND

- 06 HOUR BEST TRACK POSIT
- A SPEED OF MOVEMENT
- B INTENSITY
- C POSITION AT XX/0000Z
- ... TROPICAL DISTURBANCE
- ... TROPICAL DEPRESSION
- TROPICAL STORM
- TYPHOON
- ◆ SUPER TYPHOON START
- ◇ SUPER TYPHOON END
- ◆◆ EXTRATROPICAL
- ... DISSIPATING STAGE
- ★ FIRST WARNING ISSUED
- ☆ LAST WARNING ISSUED



TYPHOON TESS (15W)

Typhoon Tess, the first of five significant tropical cyclones to develop in September, originated as a low latitude disturbance southeast of Guam (WMO 91217). Although bringing needed rain to the Philippines during a spell of drier than normal weather, Tess also brought unwanted death and destruction. Four people perished, several were missing and at least 300 were left homeless as this tropical cyclone crossed northern Luzon and disrupted air, ground and sea transportation. In addition, a tornado spawned by Tess, ravaged the coastal town of Lemery, 50 nm (93 km) south of Manila (WMO 98425).

During the last days of August, the monsoon trough was displaced poleward and extended from the northern South China Sea eastward encompassing Typhoons Pat and Odessa, and Tropical Storm Ruby. This left a broad zone of low-level southwesterly flow across the Philippine Sea. The surface/gradient level streamline analysis for 280000Z (Figure 3-15-1) indicated anticyclonic flow over Guam and a cyclonic circulation to the southeast. This cyclonic circulation center, which was moving northwestward, remained at the western end of a band of maximum cloudiness that showed no organization. Initial conditions for development of this low latitude disturbance were unfavorable because of the strong vertical shear from the equatorward outflow channel of the multiple tropical cyclones to the north.

At 1200Z on 30 August satellite data indicated that the area of cloudiness, then located 300 nm (556 km) west of Guam, had shown a marked increase in organization and amount of convection over the previous 12-hours. Synoptic data at that time confirmed the existence of a low-level circulation, a gradual decrease in sea-level pressure and winds estimated at 10 to 20 kt (5 to 10 m/s). These data prompted issuance of the first of two TCFA's at 301930Z. Aircraft reconnaissance was requested for the next day.

On 010126Z September, the first aircraft reconnaissance flight into the system verified the location of the surface circulation, and found

surface winds of 30 to 35 kt (15 to 18 m/s) and a MSLP of 1003 mb. The first warning on Tropical Depression 15W followed at 010400Z. The center of the depression was located 600 nm (1111 km) east of Manila. The tropical cyclone was moving rapidly westward under the steering influence of the subtropical ridge which lay to the north. As the system matured, satellite imagery detected the formation of a ragged Central Dense Overcast (CDO). Based on the persistent CDO and associated intensification trend, Tropical Depression 15W was upgraded to Tropical Storm Tess at 011200Z (Post analyses showed that Tess actually had reached tropical storm intensity six hours earlier). Aircraft reconnaissance 36 hours later at 022351Z found 65 kt (33 m/s) maximum surface winds and a MSLP of 983 mb. As a result, Tess was further upgraded to typhoon status. At that time, Typhoon Tess was located by a combination of aircraft, satellite and radar information approximately 130 nm (241 km) east-northeast of Manila. Tess was destined to make landfall over Luzon within six hours. As Tess neared Luzon, it took a jog to the northwest sparing the Manila area from the strongest effects of the typhoon.

Landfall over northern Luzon resulted in the temporary downgrading of Tess to a tropical storm at 031200Z. However, within eleven hours Tess had cleared Luzon and was again over water in the South China Sea. Redevelopment to typhoon intensity was forecast and did occur at 050000Z when the Typhoon was located 170 nm (315 km) south of Hong Kong (WMO 45005) (Figure 3-15-2). Tess continued northwestward under the influence of the subtropical ridge and within 24 hours moved inland over the southern coast of mainland China near Yangjiang (WMO 59663), 120 nm (222 km) west-southwest of Hong Kong. The final warning was issued at 060600Z.

Despite passing well south of Hong Kong, Tess generated a peak gust to 60 kt (31 m/s) at the Royal Observatory, and 65 kt (33 m/s) at the Hong Kong International Airport (WMO 45007). Although considerable flooding and crop damage occurred over southern China as Tess moved inland, there were no reports of death or injuries.

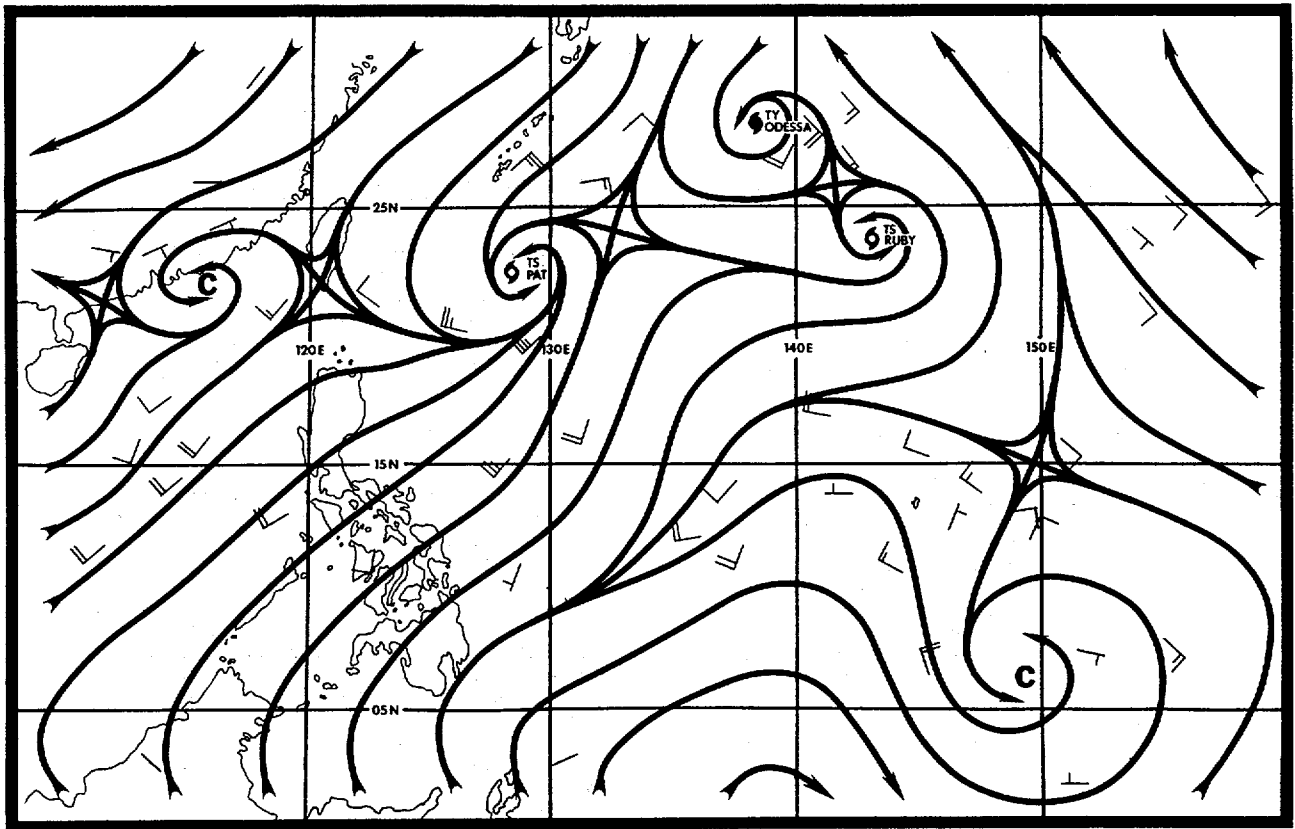


Figure 3-15-1. The 280000Z August surface/gradient level streamline analysis of the southwest monsoonal flow across the Philippine Sea. The low-latitude disturbance southeast of Guam was the precursor of Tess.

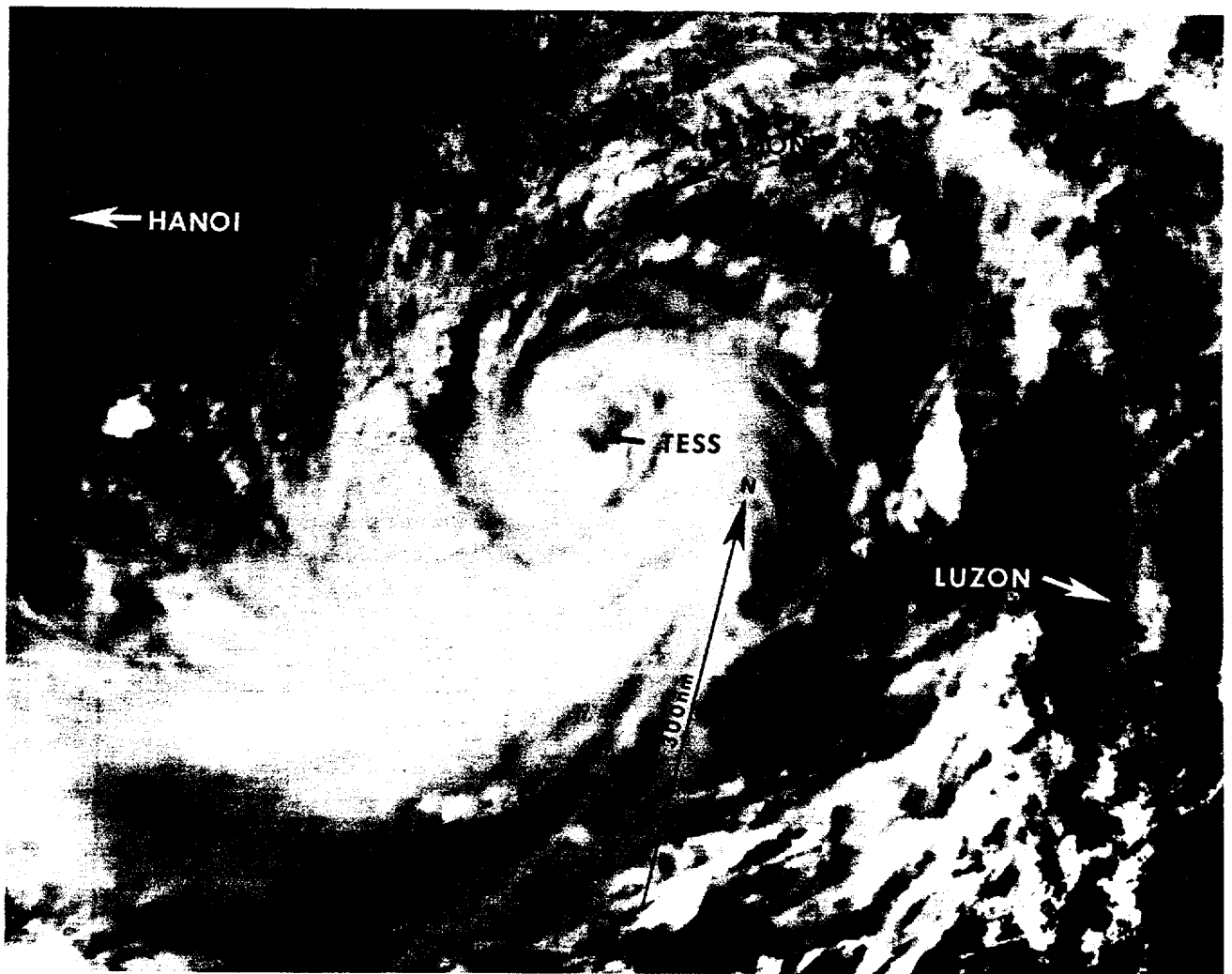


Figure 3-15-2. Typhoon Tess, with a ragged eye, near peak intensity. The coastline along the northern Gulf of Tonkin is to the west of Tess' cirrus outflow (050229Z September DMSP visual imagery).